

Appl. No. 10/087,473 (Docket 090/003)  
Amdt. dated Nov. 17, 2005  
Reply to Office Action of July 5, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

What is claimed as the invention is:

1. (Currently amended) A method for producing a population of cells ~~containing 2%~~  
comprising neurons that express tyrosine hydroxylase, the method comprising:
  - a) ~~providing a suspension of undifferentiated human embryonic stem (hES) cells that is free of feeder cells;~~
  - b) plating and culturing ~~the suspended~~ undifferentiated human embryonic stem cells on a solid surface so that they differentiate without forming embryoid bodies;
  - c) culturing the plated cells in a medium containing a TGF- $\beta$  Superfamily Antagonist; and
  - d) harvesting a population of ~~neural~~ cells from the solid surface, wherein ~~at least 2%~~  
the population of cells comprise of the cells neurons that express tyrosine hydroxylase.
2. - 3. (Canceled)
4. (Previously presented) The method of claim 1, wherein the hES cells are plated on a solid surface without any extracellular matrix.
5. (Previously presented) The method of claim 1, wherein the solid surface comprises a polycation.
6. (Previously presented) The method of claim 5, wherein the polycation is polyornithine or polylysine.
7. - 29. (Canceled)
30. (Previously presented) The method of claim 1, wherein the TGF- $\beta$  Superfamily Antagonist is noggin or follistatin.

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31. (Previously presented) The method of claim 1, wherein the medium contains a neurotrophin.
32. (Previously presented) The method of claim 31 wherein the neurotrophin is neurotrophin 3 (NT-3) or brain derived neurotrophic factor (BDNF).